EXHIBIT 7

#3

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Harold E. Price   Group Art Unit: Not Yet Assigned
Serial No.:   Not Yet Assigned·   Examiner: Not Yet Assigned
Filed: Not Yet Assigned
For: **STREAMING MEDIA BUFFERING SYSTEM**
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Assistant Commissioner for Patents
Washington, D.C. 20231

S i r :

DETAILED DISCUSSION OF THE REFERENCES SUBMITTED WITH THE INFORMATION DISCLOSURE STATEMENT IN COMPLIANCE WITH MPEP § 708.02 (VIII)

In accordance with MPEP § 708.02(VIII), applicants hereby submit a detailed

discussion of references applicable to the above-identified application. Each of these references

was listed in the Information Disclosure Statement filed with the United States Patent and

Trademark Office on even date herewith in connection with the above-identified application.

A. U. S. Patent No. 5,922,048 to Emura

United States Patent 5,922,048 to Emura (hereinafter the '048 patent) discloses a

video server apparatus with a stream control section which determines a keyframe readout interval

and a keyframe playback interval that satisfy a playback speed designated by a terminal apparatus.

The video server apparatus transmits data of the thus-determined keyframe playback interval to the

terminal apparatus. The video server apparatus reads out keyframes of a stored bit stream from at

the thus-determined keyframe readout interval, and transmits a stream including the read-out

keyframes to the terminal apparatus. The terminal apparatus decodes and displays the transmitted

stream at the received keyframe playback interval. This system can correctly perform a playback at

an arbitrary speed that is designated by the terminal apparatus.

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The '048 patent discloses a video-on-demand system capable of performing a high-speed playback at a correct speed. It discloses a server that comprises, among other components, stream storage means for storing compressed and coded streams; and access table storage means for storing an access table. The access table has pages that contain addresses of keyframes of the streams. Each of the pages corresponds to an arbitrary data length or an arbitrary period. The '048 patent does not provide (i) a buffer and buffer manager at the sending server for increasing sending speed via the Internet and (ii) a buffer and feedback manager at the receiving computer, as required by the system of applicant's claims. On the other hand, applicant's system does not provide an access table storage means for storing an access table having pages which contain addresses of keyframes of the streams, each of pages corresponding to an arbitrary data length or an arbitrary period. Significantly, the system delineated by applicant's claims does provide for buffering to increase data rate via the Internet. These structural and procedural differences patentably distinguish the applicant's claims from the '048 patent disclosure.

B. U. S. Patent No. 5,923,655 to Veschi, et al.

United States Patent 5,923,655 to Veschi et al. (hereinafter the '655 patent) discloses a system and method for communicating audio/video data in a packet-based computer network wherein transmission of data packets through the computer network requires variable periods of transmission time. The system comprises: (1) a packet assembly circuit for constructing a data packet from a portion of a stream of digital audio/video data corresponding to an audio/video signal and (2) a packet disassembly circuit, having a buffer associated therewith, for receiving the data packet from the backbone. The packet assembly circuit generates a position identifier indicating a temporal position of the portion relative to the stream. It inserts the position identifier into the data packet and queues the data packet for transmission through a backbone of the computer network.

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The packet disassembly circuit inserts the portion into an absolute location of the buffer. The position identifier determines the location of the portion thereby synchronized with adjacent portions of the stream of digital audio/video data in the buffer to compensate for the variable periods of transmission time.

The '655 patent discloses interactive video communication over a packet data network. It teaches a system comprising, among other components, a packet assembly circuit that is adapted to (i) generate a position identifier indicating a temporal position of the portion relative to the stream, (ii) insert the position identifier into the data packet and (iii) queue the data packet for transmission through a backbone of the computer network. The system disclosed by the '655 patent does not provide a (i) buffer and buffer manager at the sending server for increasing sending speed via the Internet and a buffer and (ii) a feedback manager at the receiving computer, as called for by applicant's claims. By way of contrast, the applicant's claims do not call for a packet assembly circuit adapted to (i) generate a position identifier indicating a temporal position of a portion relative to the stream; (ii) insert the position identifier into the data packet; and (iii) queue the data packet for transmission through a backbone of the computer network. On the other hand, the present system does provide for buffering to increase data rate via the Internet. These structural and procedural differences are submitted to patentably distinguish applicant's claims from the '655 patent disclosure.

C. U. S. Patent No. 6,002,720 to Yurt, et al.

United States Patent 6,002,720 to Yurt, et al. (hereinafter the '720 patent) discloses a system for distributing video and/or audio information that employs digital signal processing to achieve high rates of data compression. The compressed and encoded audio and/or video information is sent over standard telephone, cable or satellite broadcast channels to a receiver

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specified by a subscriber of the service, preferably in less than real time, for later playback and optional recording on standard audio and/or video tape.

The '720 patent discloses an audio and video transmission and receiving system. In this system, the audio and video information is transmitted and received, preferably in less than real time, for later playback and optional recording on standard audio and/or videotape. The system comprises, among other components, a plurality of libraries for storing items containing information; identification encoding means for retrieving the information in the items from the plurality of libraries and for assigning a unique identification code to the retrieved information; and a conversion means, coupled to the identification encoding means, for placing the retrieved information into a predetermined format as formatted data. The system disclosed by the '720 patent does not provide a buffer and buffer manager at the sending server for increasing sending speed via the Internet and a buffer and feedback manager at the receiving computer, as called for by applicant's claims. On the other hand, applicant's claims do not call for a plurality of libraries for storing items containing information; identification encoding means for retrieving the information in the items from the plurality of libraries and for assigning a unique identification code to the retrieved information; and conversion means, coupled to the identification encoding means, for placing the retrieved information into a predetermined format as formatted data. Significantly, the system recited by applicant's claims provides for buffering to increase data rate via the Internet. Based on these structural and procedural differences the system recited by applicant's claims and the '720 patent disclosure are patentably distinct.

D. U. S. Patent No. 6,014,694 to Aharoni, et al.

United States Patent 6,014,694 to Aharoni, et al. (hereinafter the '720 patent) discloses a system and method for adaptively transporting video over networks wherein the available bandwidth varies with time. The system comprises a video/audio codec that functions to

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compress, code, decode and decompress video streams that are transmitted over networks having available bandwidths that vary with time and location. Depending on the channel bandwidth, the system adjusts the compression ratio to accommodate a plurality of bandwidths ranging from 20 Kbps for POTS to several Mbps for switched LAN and ATM environments. Bandwidth adjustability is provided by offering a trade off between video resolution, frame rate and individual frame quality. The system generates a video data stream comprised of Key, P and B frames from a raw source of video. Each frame type is further comprised of multiple levels of data representing varying degrees of quality. In addition, several video server platforms can be utilized in tandem to transmit video/audio information, with each video server platform transmitting information for a single compression/resolution level.

The '694 patent discloses a system for adaptive video/audio transport over a network. A media server allows clients to access media from many distributed severs or even different media files on a server to enable the playing of "edited" audio/video data. The clients also control the timing of the media frames to assure a continuous stream of media frames during editing. The process disclosed by the '694 patent comprises, among other steps, compressing a raw video source into a plurality of frames, each frame comprising a plurality of levels, each level corresponding to a particular degree of compression; estimating the bandwidth of the network channel; selecting one of said plurality of levels of each frame to transmit over the network channel in accordance with said bandwidth estimate whereby the level selected optimizes the use of the bandwidth of the network channel. The system disclosed by the '694 patent does not provide a buffer and buffer manager at the sending server for increasing sending speed via the Internet and a buffer and feedback manager at the receiving computer, as called for by applicant's claims. On the other hand, the system recited by applicant's claims does not carry out the steps of compressing a raw video source into a plurality of frames, each frame comprising a plurality of levels, each level corresponding to a particular degree of compression; estimating the bandwidth of the network

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channel; selecting one of said plurality of levels of each frame to transmit over the network channel

in accordance with the bandwidth estimate whereby the level selected optimizes the use of the

bandwidth of the network channel. Significantly, applicant's claims do call for buffering to increase

data rate via the Internet. These structural and procedural differences, patentably differentiate the

applicant's claims from the '694 patent disclosure.

E. U. S. Patent No. 6,014,706 to Cannon, et al.

United States Patent 6,014,706 to Cannon, et al. (hereinafter the '706 patent)

discloses an apparatus and method for displaying streamed digital video data on a client computer.

The client computer is configured to receive the streamed digital video data from a server computer

via a computer network. The streamed digital video data is transmitted from the server computer to

the client computer as a stream of video frames. The method includes receiving a first plurality of

video frames at the client computer. The plurality of video frames represents a subset of the stream

of video frames. The stream of video frames comprises independent playable video frames and

dependent playable video frames. The method further includes displaying the first plurality of video

frames on a video display terminal associated with the client computer. There is further included

issuing a rewind command from the client computer to the server. The rewind command causes a

second plurality of video frames of the stream of video frames different from the first plurality of

video frames to be streamed from the server computer to the client computer. The second plurality

of video frames has been streamed at least once to the client computer.

The '706 patent discloses a method and apparatus for implementing control

functions in a streamed video display system. Among other components, the apparatus of the '706

patent comprises means for inputting a first plurality of data packets into a network server play-out

buffer of the server. The first plurality of data packets contains video frames representing the

streamed digital video data. An output of the server play-out buffer is configured to be coupled to a

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network data connection for transmitting the first plurality of the data packets to the client computer. The '706 patent does not disclose a buffer and buffer manager at the sending server for increasing sending speed via the Internet, and a buffer and feedback manager at the receiving computer, as recited by applicant's claims. By way of contrast, applicant's claims do not call for inputting a first plurality of data packets into a network server play-out buffer of the server, the first plurality of data packets containing video frames representing the streamed digital video data. Neither do applicant's claims require that an output of the server play-out buffer be configured to be coupled to a network data connection. Significantly, applicant's claims do require buffering to increase data rate via the Internet. In light of these structural and procedural distinctions, the '706 patent disclosure presents no obstacle to patentability of applicant's claims.

G. U. S. Patent No. 6,029,194 to Tilt

United States Patent 6,029,194 to Tilt (hereinafter the '194 patent) discloses a method in which an audio/video media server distributes editing over networks and receives requests from clients on the networks that include a clip identifier, a delivery destination identifier and the frame numbers from the clip desired. The media server parses the requests and asynchronously accesses a file system to retrieve the requested media frames from a storage medium. The retrieved media frames are asynchronously transferred to a FIFO buffer, and a clock rate for a local clock is adjusted according to the fullness of the buffer. The media frames from the buffer are sent in the form of data packets over the networks in response to interrupts generated by the local clock. In this manner the timing for the media frames is controlled by the clients to assure a continuous stream of video during editing.

The '194 patent discloses a method and apparatus for implementing control functions in a streamed video display system. The method of the '194 patent comprises, among other steps, requesting from one of the clients over the network a portion of a video clip from the

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media server, each portion containing at least one media frame; asynchronously accessing a file

system to retrieve the requested portion of the video clip from a storage medium; asynchronously

transferring the portion from the file system to a buffer one media frame at a time; and transmitting

the media frame in the form of network packets from the media server to the requesting client over

the network as a function of a local clock rate. The method disclosed by the '194 patent makes no

provision for a buffer and buffer manager at the sending server for increasing sending speed via the

Internet and a buffer and feedback manager at the receiving computer. By way of contrast, method

called for by applicant's claims does not carry out the steps of (i) requesting from one of the clients

over the network a portion of a video clip from the media server, each portion containing at least

one media frame; (ii) asynchronously accessing a file system to retrieve the requested portion of the

video clip from a storage medium; asynchronously transferring the portion from the file system to a

buffer one media frame at a time; and (iii) transmitting the media frame in the form of network

packets from the media server to the requesting client over the network as a function of a local clock

rate. Significantly, the system of applicant's claims does provide for buffering to increase data rate

via the Internet. Based on these structural and procedural distinctions, the system called for by

applicant's claims patentably differentiates the disclosure of the '194 patent.

H. U. S. Patent No. 5,999,525 to Krishnaswamy, et al.

United States Patent 5,999,525 to Krishnaswamy, et al, (hereinafter the '525 patent)

discloses a method and apparatus for video telephony over a hybrid network. Telephone calls, data

and other multimedia information including video, audio and data are routed through a switched

network that includes transfer of information across the Internet. Users can transmit video, audio

and data communications of designated quality over the Internet to other registered video telephony

users. Users can manage more aspects of a network than previously possible, and control network

activities from a central site.

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The '525 patent discloses a method and apparatus for transmitting video telephony over a hybrid network. It teaches a method and means for establishing the media, such as video, audio and data information communication, between a first party and a packet switched network utilizing the directory of internet protocol addresses for transmitting the media communication in a Real-time Transport Protocol format, and controlling the quality of transmission and reception to obtain predetermined levels of quality of service for the media communication. The '525 patent does not disclose a buffer and buffer manager at the sending server for increasing sending speed via the Internet, and a buffer and feedback manager at the receiving computer, as called for by applicant's claims. By way of contrast, applicant's claimed system is not operative to control the quality of transmission and reception to obtain predetermined levels of quality of service for the media communication. Unlike applicant's claimed process, the process disclosed by the '525 patent does not provide for buffering and a feedback manager to increase data rate via the Internet. In view of these structural and procedural distinctions, applicant's claims are submitted to be patentable over the '525 patent disclosure.

I. U. S. Patent No. 5,526,353 to Henley, et al.

United States Patent 5,526,353 to Henley, et al., (hereinafter the '353 patent) discloses a system and method for communicating audio data in a packet-based computer network wherein transmission of data packets through the computer network requires variable periods of transmission time. The system comprises: (1) a packet assembly circuit for constructing a data packet from a portion of a stream of digital audio data corresponding to an audio signal, the packet assembly circuit generating a position identifier indicating a temporal position of the portion relative to the stream, inserting the position identifier into the data packet and queuing the data packet for transmission through a backbone of the computer network, and (2) a packet disassembly circuit, having

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a buffer associated therewith, for receiving the data packet from the backbone, the packet disassembly circuit inserting the portion into an absolute location of the buffer, the position identifier determining the location, and the portion thereby being synchronized with adjacent portions of the stream of digital audio data in the buffer to compensate for the variable periods of transmission time.

The '353 patent discloses a method and system for communicating audio data in a packet-based computer network. The '353 patent provides a method and means for (i) constructing a data packet from a portion of a stream of digital audio data corresponding to an audio signal with a packet assembly circuit, the packet assembly circuit generating a position identifier indicating a temporal position of the portion relative to the stream, inserting the position identifier into the data packet and queuing the data packet for transmission through a backbone of the computer network; and (ii) receiving the data packet from the backbone into a packet disassembly circuit having a buffer associated therewith, the packet disassembly circuit inserting the portion into an absolute location of the buffer, the position identifier determining the location, and the portion being synchronized with adjacent portions of the stream of digital audio data in the buffer to compensate for the variable periods of transmission time. The system disclosed by the '353 patent does not provide for a buffer and buffer manager at the sending server for increasing sending speed via the Internet, as required by applicant's claims. Most importantly, the '353 patent does not disclose a feedback manager at the receiving computer to provide the status of the receiving buffer, as claimed by applicant. On the other hand, applicant's claimed system does not have packet assembly and disassembly circuits. Based on these structural and procedural distinctions, there is ample basis upon which to predicate patentability of applicant's claims over the '353 patent disclosure.

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J. U. S. Patent No. 793,980 to Glaser, et al.

United States Patent 793,980 to Glaser, et al. (hereinafter the '980 patent) discloses an audio-on-demand communication system that provides real-time playback of audio data transferred via telephone lines or other communication links. One or more audio servers include memory banks which store compressed audio data. At the request of a user at a subscriber PC, an audio server transmits the compressed audio data over the communication link to the subscriber PC. The subscriber PC receives and decompresses the transmitted audio data in less than real-time using only the processing power of the CPU within the subscriber PC. According to one aspect of the present invention, high quality audio data compressed according to lossless compression techniques is transmitted together with normal quality audio data. According to another aspect of the present invention, metadata, or extra data, such as text, captions, still images, and the like, is transmitted with audio data and is simultaneously displayed with corresponding audio data. The audio-on-demand system also provides a table of contents indicating significant divisions in the audio clip to be played and allows the user immediate access to audio data at the listed divisions. According to a further aspect of the present invention, servers and subscriber PCs are dynamically allocated based upon geographic location to provide the highest possible quality in the communication link.

The '980 patent discloses a method and means for controlling the transmission of an audio data stream. It further discloses method and means for sending acknowledge markers from a first location to a second location; (ii) receiving the acknowledge markers interleaved between stop markers at the second location; and (iii) generating an acknowledge signal and sending the acknowledge signal to the first location upon receiving the acknowledge marker. The '980 patent does not disclose a buffer at the sending server and a buffer at the receiving computer for increasing sending speed via the Internet, as called for by applicant's claims. On the other hand, applicant's

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claims do not require the presence of stop markers and do not define a system that is operative to continue sending data past a stop marker if an acknowledge marker is received at a first location. Significantly, the method and system of applicant's claims do provide for buffering at both the sending server and at the receiving computer to increase data rate via the Internet. These structural and procedural distinctions, patentably differentiate applicant's claims from the '980 patent disclosure.

K. U. S. Patent No. 5,822,537 to Katseff, et al.

United States Patent 5,822,537 to Katseff, et al. (hereinafter the '537 patent) discloses a networked multimedia information system that may be utilized to record, store and distribute multimedia presentations together with any supplemental materials that may be referenced during the presentation. The recorded presentation, together with the associated supplemental materials, may be simultaneously presented on a display containing two separate viewing windows. The effects of network congestion are minimized by perfecting audio and video data for storage in audio and video buffers. An adaptive control algorithm compensates for network congestion by dynamically varying the rate at which video frames are retrieved over the network, in response to network traffic conditions. The audio playback speed is reduced if the audio data does not arrive fast enough over the network to maintain the desired size of the audio buffer after the amount of video data transmitted across the network has been reduced to a minimum value.

The '537 patent discloses a method and system for communicating audio data in a packet-based computer network. It discloses a method and means for maintaining and monitoring audio and video buffers to determine when the amount of audio or video data in the server buffer falls below a predefined amount. The system disclosed by the '537 patent does not provide a buffer and feedback manager at the receiving computer to provide the status of the receiving buffer and to increase transfer rates, as required by applicant's claims. On the other hand, applicant's claims do

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not recite monitoring the audio and video server buffers to determine when the amount of audio or video data in the buffer falls below certain predefined amounts. For these reasons, it is submitted that the method and system recited by applicant's claims patentably defines over the '537 patent disclosure.

L. U. S. Patent No. 6,014,693 to Ito, et al.

United States Patent 6,014,693 to Ito, et al. (hereinafter the '693 patent) discloses a system for delivering video data comprising a video server that includes a video database for storing video index information. Such video index information defines a plurality of settings for a transfer bit rate of video data. In addition, the video index information indicates which data included in original video data the video server should transfer to a client through a network when setting the transfer bit rate to one of the plurality of settings. The system further includes a video data assembler for extracting data from the original video data. Extraction is accomplished by referring to the video data index information so as to set the transfer bit rate to one of the plurality of settings. In addition, the video data assembler reassembles the extracted data to create video data to be transferred to the client at the set transfer bit rate, while maintaining consistency in contents of the original video data. Also included is a video data delivery unit for delivering a constant amount of data at certain intervals in accordance with the set transfer bit rate in order to transfer the video data reassembled by the video data assembler to the client. Furthermore, the video server comprises a network load sensor for measuring a load imposed on the network.

The '693 patent discloses a system for delivering video data through a common type network including a video server. It discloses a video data delivery means operative to deliver a constant amount of data at certain intervals in accordance with the set transfer bit rate. Video data

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reassembled by said video data assembling means are thereby transferred to a client, making it possible for the client to replay the video data continuously. The '693 patent does not disclose a buffer and feedback manager at the receiving computer for increasing sending speed via the Internet, as called for by applicant's claims. On the other hand, the applicant's claims do not recite delivering a constant amount of data at certain intervals in accordance with set transfer bit rate. Significantly, the system and method called for by applicant's claims does provide for buffering at both the sending server and at the receiving computer and a feedback manager to vary the data rate via the Internet. In light of these structural distinctions, the subject Streaming Media Buffering Process is clearly patentable over the '693 patent disclosure.

M. U. S. Patent No. 6,047,317 to Bisdikian, et al.

United States Patent 6,047,317 to Bisdikian, et al. (hereinafter the '317 patent) discloses a video presentation system adapted to receive a plurality of series of digital data segments (e.g., image frames) that are cyclically transmitted. Certain of the digital data segments manifest a higher priority and are present in the form of plural, time-spaced copies during a series of the digital data segments. The system includes an interface for receiving the repetitively transmitted series of digital data segments and a switch for selecting at least one of the received series of digital data segments. A display presents an image that is constructed from a digital data segment that is selected by a user. By providing plural copies of higher priority digital data segments in each series, a reduction in image access time results when the user selects one of the higher priority digital data segments. A set-top box which serves as the receiver can also be provided with sufficient memory to buffer a certain number of the higher priority digital data segments.

The '317 patent discloses a system and method for enabling a user to rapidly access images in cyclically transmitted image streams. It discloses accessing one of a series of digital data

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segments. The accessing step requires less waiting time to access a selected digital data segment due to the fact that the selected digital data segment is repeated a plurality of times during each cycle. The '317 patent does not disclose a buffer and feedback manager at the receiving computer for increasing sending speed via the Internet, as called for by applicant's claims. On the other hand, the system and method of applicant's claims is not operative to access one of a series of digital data segments by means of a process in which the accessing requires less waiting time to access a selected digital data segment because the selected digital data segment is repeated a plurality of times during each cycle. Significantly, applicant's claimed method does provide for (i) buffering at both the sending server and at the receiving computer and (ii) a feedback manager to vary the data rate via the Internet. For these reasons, the system and method called for by applicant's claims and the '317 patent disclosure are patentably distinct.

N. U. S. Patent No. 6,061,731 to Blakeslee

United States Patent 6,061,731 to Blakeslee (hereinafter the '731 patent) discloses a read only linear stream based cache for a linear stream based cache system. The read only linear stream based cache receives data including at least one of voice data, video data, image data and digital data, from a data source and transmits the video data to an application controlling a display for displaying the video data. The cache system includes an application memory storing first data, a cache memory, operatively connected to the application memory, and storing second data, and a data processor, operatively connected to the application and cache memories. The data processor controls the transmission of third data from the data source to the application via at least one of the application and cache memories responsive to an application file request. When the data processor determines that a sufficient amount of at least one of the first and second data is stored in at least one of the application and cache memories, respectively, the application accesses the first data in the application memory, and the data processor controls the transmission of the second data from the

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cache memory to the application memory, and the third data from the data source to the cache memory. In addition, when the data processor determines that the sufficient amount of at least one of the first and second data is not stored in at least one of the application and cache memories, respectively, the application accesses the first data in said application memory, and the data processor controls the transmission of the second data from the cache memory to the application memory, and the third data from the data source to the application memory.

The '731 patent discloses a method and system for receiving data having a read only linear stream based cache. It teaches use of a cache memory, operatively connected to the application memory, for storing second data. A data processor, controls the transmission of third data from the data source to the application via at least one of the application and cache memories in response to an application file request. The data processor determines that a sufficient amount of at least one of the first and second data is stored in at least one of the application and cache memories, respectively. Unlike the system and method called for by applicant's claims, the system disclosed by the '731 patent contains neither a source server, or source buffer, nor a feedback manager at the receiving computer for increasing sending speed via the Internet. On the other hand, applicant's claimed method and system do not provide for application memory. Significantly, the system and method of applicant's claims do provide for buffering at both the sending server and at the receiving computer, and a feedback manager to vary the data rate via the Internet. In view of these structural and procedural distinctions, the system and method defined by applicant's claims is clearly patentable over the '731 patent disclosure.

O. U.S. Patent 6,061,732 to Korst, et al.

United States Patent 6,061,732 to Korst, et al. (hereinafter the '732 patent) discloses an audio/video server wherein blocks of data are read from a storage medium by a reader and supplied to users in the form of data streams. The storage medium comprises a

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plurality of record-carrier based storage units. A reader reads a batch of data units from a

storage unit in a single relative movement of a reading head of the storage unit with respect

to the record-carrier of the storage unit. A scheduler controls reading of blocks from the

storage medium by determining from which storage unit(s) data unit(s) need to be read for

the block and placing a corresponding carrier access request in a read queue. The scheduler

extracts for each of the storage units a batch of carrier access requests from the queue and

issues the batch to the reader in an asynchronous manner, in response to the reader having

substantially completed reading data units for a previous batch for the storage unit.

The '732 patent discloses a data streaming system utilizing an asynchronous

technique for retrieving data from a stream server. It teaches cyclically extracting for each of the

plurality of storage units a batch of carrier access requests associated with the storage unit from the

read queue in an asynchronous manner. The '732 patent does not disclose a buffer or feedback

manager at the receiving computer for increasing sending speed via the Internet, as required by

applicant's claims. On the other hand, the method and system of applicant's claims is not operative

to cyclically extract for each of the plurality of storage units a batch of carrier access requests

associated with the storage unit from the read queue in an asynchronous manner. Significantly, the

applicant's claimed method and system do provide for (i) buffering at both the sending server and at

the receiving computer and (ii) a feedback manager to optimize the data rate via the Internet. Based

on these structural distinctions, applicant submits that patentability of the method and system

claimed herein over the '732 patent disclosure is clearly established.

P. U.S. Patent 6,065,050 to DeMoney.

United States Patent 6,065,050 to DeMoney (hereinafter the '050 patent) discloses a

system and method for indexing between video streams in an interactive video delivery system. The

interactive video delivery system includes at least one media server which stores video streams

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having different presentation rates. In one embodiment, the system stores a normal play stream and

one or more corresponding trick play streams. The trick play video streams are fast forward and/or

fast reverse video streams. The system generates index tables or look-up tables between the normal

play and trick play video streams which enable indexing between the streams, and uses these look-

up tables to switch back and forth between the streams. In creating the index tables, the system first

analyzes the normal play stream and creates a normal playtime standard based on presentation

timestamps from the normal play stream. The system then creates an index table or look-up table for

each of the normal play and trick play video streams using the normal playtime standard. Each index

table includes an array of two-tuples, wherein the two-tuples are the normal play time standard and

an index or offset into the respective stream. The index tables enable indexing between the streams.

During video delivery, the system uses the respective index tables to switch back and forth between

the normal play and trick play video streams.

The '050 patent discloses a method and system for indexing between trick play and

normal play video streams in a video delivery system. It teaches creating an index look-up table

(LUT) associated with each of said video streams using a normal playtime standard for the

associated video stream. Each of the index LUTs includes a plurality of entries comprising a normal

playtime value from the associated video stream and a corresponding offset into the other video

stream. The index LUTs are used to effect switching between said first video stream and said

second video steam. The '050 patent discloses neither a source server or source buffer nor a

feedback manager at the receiving computer for increasing sending speed via the Internet, as called

for by applicant's claims. By way of contrast, the system and method of applicant's claims does not

provide for an index look-up table. Significantly, the method and system recited by applicant's

claims do provide for (i) buffering at both the sending server and at the receiving computer, and (ii)

a feedback manager to optimize the data rate via the Internet. In view of these structural distinctions,

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it is submitted that no obstacle to patentability of the method and system of applicant's claims is presented by the '050 patent disclosure.
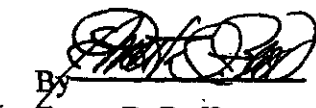

Q. U.S. Patent 6,085,221 to Graf

United States Patent 6,085,221 to Graf (hereinafter the '221 patent) discloses a technique for distribution of multimedia files from file servers over arbitrary telecommunication networks to consumers where those networks offer connections of a certain bandwidth for transmission. The consumers deliver requests for presentation of multimedia files, and the file servers deliver those files with respect to said requests for presentation. According to the proposed method, the transmission rates of the multimedia files are smoothed by spreading the transmission over time leading to additional delays in the delivery of said information. Minimum transmission rates for maximum values of the delays are calculated, and these values are provided as control data for the transmission. These control data are appended to the respective multimedia files, and the multimedia files are delivered to the receivers with respective additional delays between the requests for presentation and the presentation of the files, corresponding to the maximum delays. By the proposed method, time critical files being encoded with a variable amount of data over time, like video-on-demand files, can be transmitted with constant quality despite given fluctuations in the amount of coded data, and without any interaction of the user, and thus a continuous playback of a demanded video is provided.

The '221 patent discloses a method and system for indexing between trick play and normal play video streams in a video delivery system. It teaches calculating minimum transmission rates for maximum values of the delays, and providing the values as control data for the transmission. The '221 patent does not disclose (i) a source server or source buffer, or (ii) a feedback manager at the receiving computer, for increasing sending speed via the Internet, as called

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for by applicant's claims. On the other hand, the system and method of applicant's claims does not

comprise the steps of calculating minimum transmission rates for maximum values of the delays,

and providing the values as control data for the transmission. Significantly, applicant's claimed

system and method do provide for buffering at both the sending server and at the receiving

computer, and a feedback manager to optimize the data rate via the Internet. These structural and

procedural distinctions, support patentability of the system and method claimed by applicant over

the '221 patent.

Respectfully submitted,
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0021-49-PMSDDR1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	Harold E. Price	Group Art Unit:	Not Yet Assigned
Serial No.:	Not Yet Assigned	Examiner:	Not Yet Assigned
Filed:	Not Yet Assigned		
For:	**STREAMING MEDIA BUFFERING SYSTEM**		
Attorney Docket No.:	0021-49		

Morristown, N.J. 07960
March 23, 2001

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

STATEMENT PERTAINING TO PRE-EXAMINATION SEARCH IN ACCORDANCE WITH MPEP § 708.02(VIII)

In accordance with MPEP § 708.02 (VIII), applicants, by and through their attorney, hereby

submit that a pre-examination search was made for the above-identified application. The search

was conducted by applicants' agents at the United States Patent and Trademark Office. The field of

search covered Class 345, subclass 3, Class 348, subclasses 6, 7, 10, and 12, Class 370, subclass

229, and Class 709, subclasses 227, 228, 231, 232, 233, 234, and 235. Examiners John Miller in Art

Unit 2711, Marc Thompson in Art Unit 2756, and Kee Tung in Art Unit 2776 were consulted in
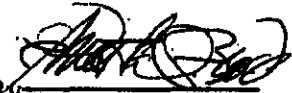
confirming the field of search.

The search identified the following references:

Patent Number	Inventor
5,526,353	Henley et al.
5,793,980	Glaser et al.
5,822,537	Katseff et al.
5,922,048	Emura
5,923,655	Veschi et al.
5,999,525	Krishnaswamy et al.
6,002,720	Yurt et al.
6,014,693	Ito et al.
6,014,694	Aharoni et al.
6,014,706	Cannon et al.
6,029,194	Tilt

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6,047,317	Bisdikian et al.
6,057,832	Lev et al.
6,061,731	Blakeslee
6,061,732	Korst et al.
6,065,050	DeMoney
6,085,221	Graf

Each of the foregoing references has been identified and discussed in the Detailed

Discussion of the References Submitted in Compliance with MPEP § 708.02(VIII).

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